

(In handwriting) - Door S/W Interlocked footlighting - 10 km/Hz-Prohibited lighting

Disclosure Utility shows 62 (1987) - 102739

Japan Patent Office (JP) (11) Utility model filing disclosure  
(12) Disclosure Utility Model Bulletin (U) Sho62 (1987) 102739

Identification mark Office file number Disclosure Sho62 (1987) June 30.

Application Audit Not yet applied (Whole page)

Name of design Door mirror devise

Actual application  
Application filing

Sho 60 - 195995  
Sho 60 (1985) December 20

Designer Hiroyuki Matsuda 3-1 Shirochi Fuchumachi Aki-Gun, Hiroshima  
Matsuda Co. Ltd  
Tsutomu Hasegawa As Above  
Tsuyoshi Tokumasa As Above  
Yoshinori Okada As Above

Applicant Matsuda Co. Ltd As Above  
Attorney Patent Attorney Masaaki Yanagida and one more person

AUG-10-1999 TUE 11:59 AM T CHINN BRITAX IP GROUP

FAX NO. 810 364 0161

P. 03/16

09-AUG-1999 09:23 BRITAX RVS

TO TOM NN

P.11/17

727

## 明 報 書

## 1. 考案の名称

ドアミラ装置

## 2. 実用新案登録請求の範囲

車体のドアに取付けられたドアミラと、該ドアミラの外側面もしくは下面に首振り可能に設けられたランプとからなることを特徴とするドアミラ装置。

## DESCRIPTION

## 1. Name of design

Door Mirror Device

2. The range of the application for the utility model register.  
The special features of this door mirror device is that it is fixed to the car body, and has a lamp which is able to rotate to the outside of the door mirror or downwards.

470

G 317.211 No. 529145 P. 11

BRITAX JAPAN 7154902

9. Aug. 1999 16:22

AUG-10-1999 TUE 11:59 AM T CHUNN BRITAX IP GROUP

FAX NO. 810 364 0161

P. 04/16

09-AUG-1999 09:23 BRITAX RUS

TO TOM IN

P.12/17

### 3. Detailed explanation

#### (Industrial Usage field)

This design is related to the door mirror device which has a lamp attached.

#### (Technology to date)

There is a door mirror device fixed to the car body, that has a lamp, which is a map lamp fitted on the inside of the car on the bracket used for fixing the door mirror. (showed in gazette JITSUKAISHO 59-80141)  
For this map lamp of this device, the luminous source is fixed on the side of the bracket on the car interior, the light only irradiates in one direction in the car interior. It was impossible for the light to irradiate towards the outside of the car body.

#### (Design aims)

This design aims to provide a door mirror device which has a lamp which irradiates outside the car body and is effective for getting in and out of the car and for changing tyres and so on.

#### (Design Configuration)

The feature of the door mirror within this design is that the lamp is rotatable. This lamp is fixed either on the furthest side of the outside or the underside of the door mirror.

This lamp is able to change the direction of the luminous source in order to change the angle of irradiation voluntarily. Therefore it achieves a wider range of irradiation compared to the previous design. The circuit for the lamp lighting is better used with the circuit for the room lamp, interlocked with the door switch, so that when opening and closing the doors the lights are flashing. Also you may structure the light time limit by attaching a timer.

#### (Actual example)

The following explanation shows the actual example of this door mirror device in detail using the diagram.

Diagram 1 and Diagram 2 show the Angular view and front view of this door mirror device. Lamp 4 is fitted on the bottom part of the housing part 3 which supports the mirror part 2 of door mirror which is attached to the car body 1. Part 6 is the half cylindrical reflection board which is placed on the opposite side of car body 1. On the perimeter of 5, the luminous source, tubular outside

AUG-10-1999 TUE 12:00 PM T OHINN BRITAX IP GROUP

FAX NO. 810 364 0161

P. 05/16

09-AUG-1999 09:23 FROM BRITAX RV5

TO TOM OHINN

P.13/17

case 7 is attached, 7a, on the car body side is formed of transparent resin, whilst on the opposite side to the car body 7 is formed of unclear material. The bottom part of tubular case 7 is formed of lens material 8. That is to say this lamp 4 is formed in order to irradiate from the bottom of the housing part 3 downwards. Diagram 3 is looking upwards towards the bottom of the lamp. The light from the luminous source is reflected by reflection board 6, so this allows a 180 degree range of irradiation (as indicated by A to I).

Also this lamp is structured that it can rotate backwards and forwards. As shown in diagram 2, the hemispherical shaped housing part 7b for rotating is fixed in the internal door mirror device. The above mentioned case 7 is introduced to the hemispherical shaped housing part 7b for rotating. By structuring case 7 in order to rotate to an optional angle, the luminous source 5 is able to change the angle of irradiation not only perpendicularly downwards but to other angles.

The lamp fixed onto the door mirror device is better used for the room lamp interlocked with the door switch, so that when opening and closing the doors the lights are flashing. The following circuit diagram shows this actual example.

Diagram 4 is an actual example when the door mirror lamp specialised switch is attached to the inner panel and structured using the same circuit as the room lamp. Door mirror lamp 5 has a changeover switch which you can select from one of NO (A) or NC (B) or Door Interlock (C) which is the same as room lamp 15. This can be selected manually. Door switch 16 is connected in series each of room lamp 15 and door mirror lamp 5. This switch closes when the door opens and opens when the door closes. In case of the regulations for use of room lamp whilst car is running is applied in use of the door mirror lamp, it is better to attach off-circuit 10 whilst running with car speed sensor 9. This Circuit 10 is connected between 11 and 12 (Diagram 4). For example, when the speed is faster than 10 km/h, Car speed sensor 9 turns off the relay 10a and it turns off the door mirror lamp 5 automatically. This then prevents the flashing of the door mirror lamp while the car is running.

Diagram 5 shows the circuit of the actual example without the specialist switch, but the workings of the room lamp switch. When the door is opened and closed, room lamp 15 and door mirror lamp 5 flash at the same time. Even when the door is closed, it is structured that when the room lamp 15 is on, so too is door mirror lamp 5. By this example, if you have a car speed sensor circuit (no diagram) it is able to correspond with the regulations regarding use of internal car lights whilst the car is running. Diagram 6 shows the circuit to turn on the door mirror lamp when the door is opened only, which is separate from room lamp 15. In this actual example even if the room lamp 15 is not on when the door mirror lamp 5 is on, it is essential the door is opened. When the door is closed the door mirror lamp 5 turns off. In this case it is structured that even if the door isn't completely closed the door mirror lamp 5 is on. Therefore even if the room lamp is off, it is very effective in enabling you at night to check whether the door is closed completely. However, when the door is open the door mirror lamp stays on, therefore the battery flattens if the door is opened for long periods. To avoid this, it is better to have a structure by which the timer 13 is directly connected to the door mirror lamp so that after a certain

irradiation time, the door mirror lamp 5 turns off. The position of timer 13 is also suitable to be connected to the door switch 16. The timer will also function when the door is not closed completely. Door mirror lamp 5 can be structured by the circuits as mentioned above to make it possible to turn on and off the door mirror lamp when the door is opened and closed.

**(Design Effect)**

This door mirror device by this design allows the attachment of the rotating lamp to the furthest outside section or underneath the door mirror, this enables the irradiation of the necessary area of the lower car body. Because of this, when the door is opened at night, you can not only indicate to oncoming traffic that your door is open, but when you get in a out of the car the foot step up is illuminated, therefore safety is secured as well as making checking or changing tyres much easier at night.

**4. Simple explanation of diagram**

Diagram 1 is one of the actual examples of the door mirror device by this design viewed on the angle looking upwards.

Diagram 2 is the front view of the door mirror device

Diagram 3 is from the bottom of the device looking upwards.

Diagram 4 is the circuit diagram of one of the actual examples for this door mirror device.

Diagram 5 is the circuit diagram of other actual examples.

Diagram 6 is the circuit diagram different from diagram 4 and 5.

- 1... Car body
- 3... Housing part
- 6... Reflection board
- 13... Timer
- 16... Door Switch

- 2 ...Mirror part
- 5 ... Door mirror lamp
- 10...Off-Circuit when running
- 15...Room lamp

Diagram 1

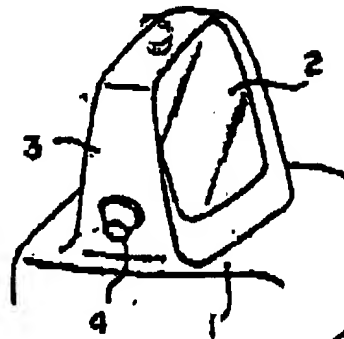


Diagram 2

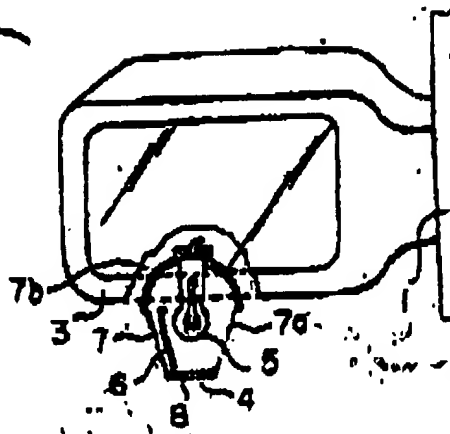
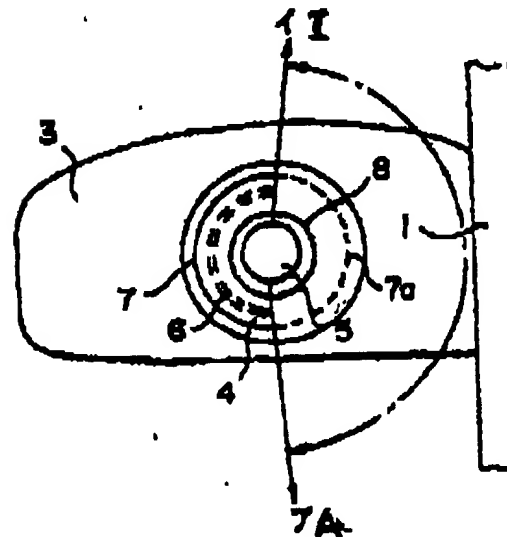


Diagram 3

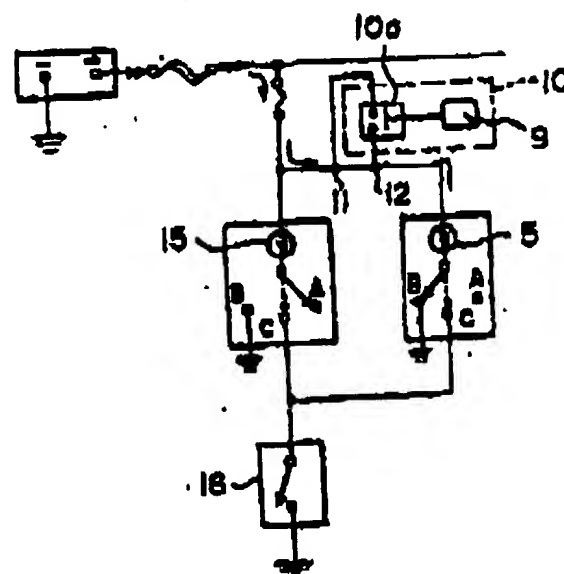


P. 16/17  
P. 24/25

46/27

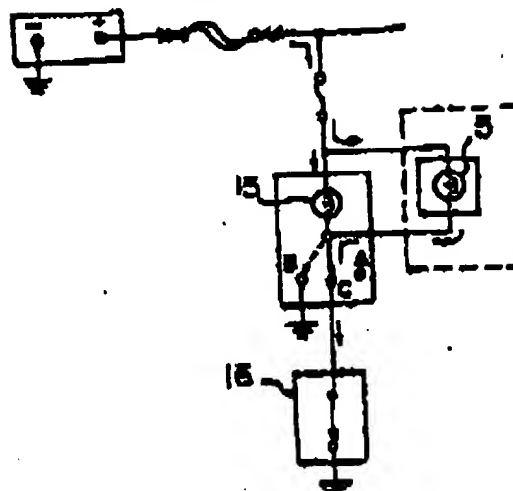
公開実用 昭和62-102739  
kakai jitsuyō shōwa

**Diagram .4**



CAR SPEED SENSOR

Diagram, 5



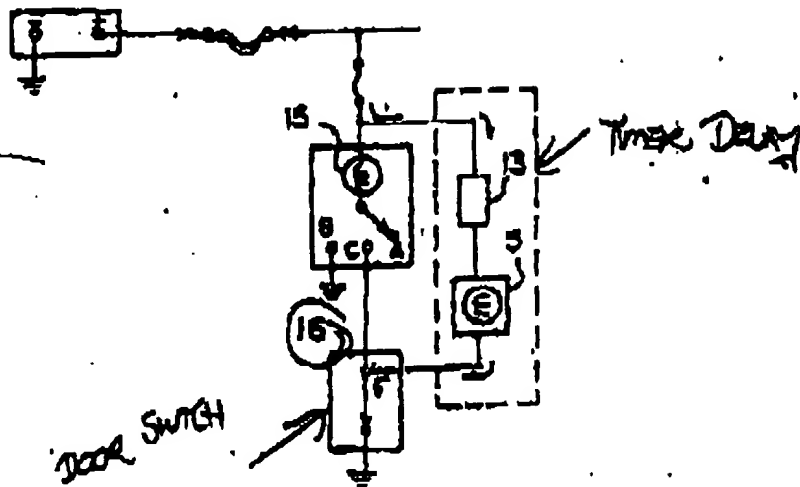
47:3

No. 5291 P. 16  
No. 5260 P. 12

BRITAX JAPAN 757572  
BRITAX JAPAN 757572

9. Aug. 1999 16:25

Diagram 6



4B13

突開62-102739

NO. 5250 P. 13

NO. 2621 P. 11

BRITAX JAPAN 7-34902  
 BRITAX JAPAN 7-34902

9. Aug. 1999 16:26  
 TOTAL P.17



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☒ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**